

عنوان مقاله:

A Simulation Model for Optimization of the Internal Handling Fleet Size at Shahid Rajaei Container Port Based on Performance Evaluation

محل انتشار:

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نویسندگان:

Parham Azimi - Assistant Professor, Faculty of Industrial and Mechanical Engineering, Qazvin Branch, Islamic Azad University, Qazvin, Iran

Mohammad Reza Ghanbari - MSc, Young Researches Club, Qazvin Branch, Islamic Azad University, Qazvin, Iran

خلاصه مقاله:

The dramatic increasing of sea-freight container transportations and the developing trend for using containers in the multimodal handling systems through the sea, rail, road and land in the present market cause some challenges to the general managers of container terminals such as increasing demand, competitive situation, new investments and expansion of new activities and the need to use new methods to fulfil effective operations both along quayside and within the yard. Among these issues, minimizing the turnaround time of vessels is considered to be the first aim of every container port system. Regarding the complex structure of container ports, this paper presents a simulation model that calculates the number of trucks needed in Shahid Rajaei Container Port for handling containers between the berth and the yard. In this research, some important criteria such as vessel turnaround time, gantry crane utilization and truck utilization have been considered. By analyzing the results of the model, it will be shown that increasing the number of trucks to 66 units has a significant effect on the performance indices of the port and can increase the capacity of loading and unloading up to 10.8%.

کلمات کلیدی:

Container terminal; Simulation; Vessel turnaround time; Gantry crane utilization

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